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ABSTRACT

There are four major functions involved in the management of any human enterprise: planning, organizing, executing, and controlling. Educators would add an additional function--evaluation--although it is generally subsumed under control. The control function has been neglected in education. Control means formative (inprocess) evaluation plus timely remediation. Quality control is concerned with remediation and correction. It includes a monitoring function designed to determine if necessary corrective actions have been taken. Planning should anticipate control; that is to say, planning should provide sufficient guidelines to permit effective monitoring of the enterprise as it progresses. This implies that planning must include establishment of clearly articulated standards of performance and that the objectives for any program must be based on clearly articulated discrepancies between what is and what ought to be. This shift in outlook to output standards allows a redefinition of quality (fitness for use as judged by the user) and a refocussing on the efficiency and effectiveness of education. An emphasis on control in education should allow educators to solve the chronic problems of redundancy in instruction, the academic/vocational dichotomy, and the failure to use a total management approach consistently.
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Quality Control

The missing link in educational management

THE SEA/STAFF DEVELOPMENT PROJECT

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Education, it seems, is suffering a multiplicy of "slings and arrows of outrageous fortune," the most immediate disaster being the whiplash of combined inflation and economic downturn, with all their attendant fiscal and social consequences. On another front, declining enrollments signal the end of an era of expansion and the beginning of retrenchment. The seriousness of this latter development is only partially attested to by the laying-off of 200,000 teachers in the 1974-75 school year. The ripple effect is being felt by teachers' colleges all over the country. And as if this were not enough, there is the distressing fact of significant declines in the achievement scores of millions of children, youth, and young adults, creating a new class in our society: the functionally incompetent. Numerous newspaper editorials and national magazines tell of an increasing number of college students who cannot write passable English prose. It is as though, as God observed in the play, "Green Pastures", "Everything nailed down is coming loose."

Of course, the foregoing is disturbing to say the least. And it is unfair to blame all these things on educators because education is a process touched by all life, whose outcome is influenced by an unbelievable variety of factors. In fact, there is mounting evidence, that dips in reading and English composition scores are due -- in some, if not large measure -- to a growing propensity among the young for T.V. Still other external factors can explain achievement declines among students: size of the learner's family, college open-enrollment policies that have expanded the test population, rising divorce rates, nutrition, etc. The list of possible causes is endless. The point, which is hopefully not overdrawn, is that the causes of learning achievement or failure are often difficult to ascertain. But educators have always known this, and the "good" teacher deals with whatever conditions may prevail. That's what teaching is all about. But let's concede for the sake of argument that educators cannot be held accountable for learning results. What are they accountable for? The answer is that professionals -- be they doctors, lawyers, or educators -- are accountable for sensing and monitoring conditions, and for responding to distress signals in a timely fashion. That there is no widespread system for doing so is obvious in the light of current events. The growing degradation of achievement in education is in large measure a result of our failure to understand fully the process of control, and to exercise it consistently. It may be that simple.

As every student of educational administration and management knows, there are four major functions involved in the management of any human enterprise: planning, organizing, executing, controlling. Educators would add an additional function: evaluation, although it is generally subsumed under control. Incalcuable sums have been spent on educational planning and evaluation in the last decade and a half; only scant attention has been given to the control function -- and the consequences of this neglect have been disastrous to put it mildly. It is apparent that if we are going to put our house in order, if we are to reduce the

number of unpleasant future surprises in education. we must master the process of control.

What is Control?

Probably the greatest barrier to making better use of control is that most educators don't like the word. For many it connotes manipulation and exploitation, conjuring up images of some impersonal, inhumane machine. Obviously, these are perceptions we must deal with because they represent valid concerns. We would do well, however, to recognize that control is a concept that has its origins in nature, particularly in the area of living organisms. It is a concept we all know in terms of our own bodies: When control is absent for any period of time, we run the hazard of disease or death. Control is every bit as important to organizational health as it is to the health of the human organism. Some have referred to control in the human body as dynamic equilibrium -- and it is in this sense that the writers see control.

Henri Fayol, in defining control related to management of human enterprises, views control as checking and verifying, and finally, comparing what is with what is intended. In education we would call these processes evaluation or needs assessment. But control means more than evaluation; it requires undertaking some action in response to evaluation; Control is not only interested in what is so, but in so what?

The definition of control is elegantly simple: Control means formative (in-process) evaluation plus timely remediation. But timely remediation cannot occur unless there is an early warning system - a DEW-Line, if you will, that sets off "bells" and "red lights" informing the manager (principal and teacher) that there are intolerable deviations from established standards. In education, most often what we have is not an early warning system but a coroner's report: The public is informed about discrepancies months and even years after the fact. Another way of stating this is to say, we have failed to develop adequate management information systems for our instructional programs -- and effective control is an impossibility without management information systems.

Control as a Non-Judgmental Process

While it may oversimplify matters, a useful analogy -- when discussing control, as applied to human enterprises-- is the thermostat. The thermostat, on the basis of pre-established standards, responds to changing conditions. It signals when there is some deviation from quality standards (in this case, a sufficient variation in temperature). The thermostat does not "blame" the room in which it resides; it does not blame the weather. It blames no one. When it is functioning properly it responds. Likewise, the function of control in human organizations is not to blame, it is to sense and signal (supply appropriate data to managers) in order that informed decisions can be made concerning adjustments. It remains for the manager to respond. For example, if

there is a significant downturn in a given child's reading achievement, a properly functioning control system "says" to the principal and administrator, "there is a deviation from the standard". It is then up to the principal and teacher to determine the causes for deviations, or if the standards are unreasonable, to institute changes in standards. It is up to managers to decide what remedial steps are necessary. If there is professional culpability on the part of educators, it is not due to failure to reach established goals in education. Without the freedom to fail, there will be little risk taking and professional growth. In the words of Kurt Goldstein, "Growth and safety are opposites." No, if there is professional culpability, it must be found in our unwillingness or inability to note obvious deviations from standards and to respond to them in a timely fashion. Not to do so will lay educators open increasingly to charges of malpractice. A major purpose of control is to facilitate the correction of chronic mistakes and problems, and to utilize the most efficacious practices. In large measure the control function assists us in providing preventive maintenance.

It is important that control be viewed within a systems context, with built-in distress indicators. Theoretically, control is amoral; "it tells it like it is," to use the ungrammatical phrase. Quality control, on the other hand, is not disinterested; it is concerned with remediation and correction. Therefore, quality control includes a monitoring function designed to determine if necessary corrective actions have been taken. When timely correction does not occur, bells should sound and red lights flash. A major intent of quality control should be the debugging of the system where and when necessary.

Control Standards

A key concern of the manager is: How critical should be the tolerances that signal some dysfunction? There are really no ready answers to this question; answers must be provided by various participants in an educational program. What we are talking about, however, are standards. Standards, in fact, are at the value core of education; they provide momentum to, and guidance for, the entire enterprise. Unrealistically low, they deprive us of challenge and the heady experience of stretching our capabilities; set too high, standards rob us of success. So the obvious conclusion is that workable standards constitute a delicate balance between aspirations that are too high and too low. This brings us to an interesting paradox: In education, our demands of the learner may be too great, while our standards or expectancies are too low. In other words, learners too often find themselves in situations where they are asked to do many things for which they are not maturationally ready because our lock-step philosophy or our norm-oriented bias says the majority should be able to do thus and so; conversely, too many eductors deny human potentiality by adherring to the view that only a certain number can expect to achieve successfully.

Now we arrive at a basic point about standards: The establishment of standards begins with belief -- with some unifying philosophy. And belief is an amalgam of fact and intuition. It is the precursor of action. When considering control standards, we are really talking about standards as they apply to a performance-oriented instructional system, which forms the basis for disciplined caring. While philosophies and beliefs abound in education, it is clear commitment to learning mastery is essential to the development of an instructional management system commensurate with our current technological capability. In this regard, B.S. Bloom's "proposition" can serve as the mobilizing belief:

> ...We are expressing the view that, given sufffcient time, (and appropriate types of help), 95 percent of students (the top 5 percent plus the next 90 percent) can learn a subject up to a high level of mastery. We are convinced that the grade of A as an index of mastery of a subject can, under appropriate conditions, be achieved by up to 95 percent of the students in a class.*

Obviously, if Bloom's proposition is subscribed to, control will be applied in a far different manner than if a traditional standard is applied. The most profound consequence is that we start with a commitment to success and therefore seek to provide the necessary support to assure success. Another spinoff is that we begin to view learning failure as a signal that the system is malfunctioning -- that the system is failing, not individual learners or teachers. Emphasis is on providing the most humane and supportive conditions for learning and teaching. This latter point should be the universal credo for educational control.

The Relationship of Planning to Effective Control

In brief, planning should anticipate control; that is to say, planning should provide sufficient guidelines to permit effective monitoring of the enterprise as it progresses. This implies two planning requirements: one, the objectives for any programs must be based on clearly articulated discrepancies between what is and what ought to be; two, planning must include establishment of clearly articulated standards of performance. This means that planning must be concerned with development of criteria for assessing successful achievement of specified objectives. Failure to meet these requirements imposes serious limitations on our ability to sense, monitor, and correct; i.e., formative evaluation plus timely remediation. Equally important, failure to incorporate these requirements into the planning process can only subject staff subsequently to the hazards of arbitrary and capricious performance evaluations.

Educational Quality and Productivity

This is an era of rising expectations, and increased competition for available resources, but unfortunately our traditional indices of educational quality are based largely on how much is spent. The shift from a focus on inputs to a focus on outputs has more profound implications than most see, and the perceptual and operational shift can only elevate the importance of control in the coming decade.

*Every Kid Can: Learning for Mastery. Wash., D.C.: Learning Support Systems, 1974.

Naturally, when we talk about input and output, we are using the metaphor of system. It is important to note, however, one additional element or stage: process (what goes on between input and output - how resources are used). Another term we might employ is value-added. This brings us to the subject of quality -- what we are getting for resources expended.

Interestingly, the definition of quality is the same for every enterprise except education. Indeed, the same definition of quality is applied to every product or service industry without exception: Quality is fitness for use as judged by the user. There you have it. Not, it should be emphasized: fitness for use as judged by the producer. The implications for evaluation can be far-reaching. We might ask: Are our youngsters culturally fit? What constitutes cultural fitness? Who are the users of culture?

How about our economic system? Are our young people economically fit? What are the indicators of economic fitness? Are we "developing" people fit to captain, manage, preserve, protect and enhance our economic system?

And how do we define productivity? As a concept, it is not all that complex; productivity simply means getting the same results for less cost; or getting better results for the same cost; or getting significantly better results for increased cost. Under present real-world conditions, productivity can only mean getting better results for the same money. The harsh, inescapable reality is that we are probably not going to get additional money (not any time soon anyway). And it is also certain, given the present state of management art in education, we are not going to achieve the same results for less money, although this should remain a productivity goal in education.

How do we increase productivity in education? There are two obvious approaches: One, we can increase our efficiency and; two, we can increase our effectiveness. Efficiency relates to how well we expend our resources. It is based on a rule of parsimony: Performing a task in less time, with less effort, or both. Effectiveness, on the other hand, is concerned with the quality of the outcome -- how well something is achieved in relation to specified objectives. We all know it's possible to be efficient and not effective. Indeed we can be efficient about some pretty silly things. We can even have an efficient disaster plan. It's also possible to be effective, and not very efficient. Efficiency and effectiveness are two sides of the productivity "coin". Another name for this coin is cost effectiveness. There is no way we can "spend" one side of the coin for the best possible results. When the U.S. Office of Economic Opportunity made its report some years

ago on performance contracting, it concluded there were no significant differences in the reading results between experimental (performance contracting) and conventional classrooms. OEO, however, measured only effectiveness; it neglected to consider efficiency. Of more than passing interest is the fact that performance-contracting schools achieved the "same" results for significantly less money, in some cases, three to four times less. Thus, while many may say that effectiveness is what is important in education, there is no way effectiveness can be intelligently assessed without relating results to cost. This point assumes overriding importance because a major goal of education in the years to come must be to achieve significantly better results at the present levels of expenditures. Realism dictates this as the only prudent course; reason tells us that we can never hope to achieve significant productivity gains unless we exercise diligently the function of control, utilizing both effectiveness and efficiency measures. Moreover, by systematically relating both effectiveness and efficiency, educators can more effectively combat mindless cost-cutting that masquerades under the name of cost-effectiveness.

The Concept of Breakthrough, and Its Relation to Sporadic and Chronic Problems

Engineering provides a concept of considerable potency. Engineers, it should be noted, are concerned with breakthroughs. When a "breakthrough" is achieved, there is movement from one level of performance or activity to a superior level. Many breakthroughs are common knowledge: The splitting of the atom; the harnessing of thermonuclear energy; the development of immunization serums; the development of xerography and cybernetics, to mention a few. Breakthroughs, it is observed, are not achieved by chance, although inspiration may be involved. Breakthroughs are achieved by identifying problems and working consciously toward their solution, usually within some conceptual or theoretical framework. Breakthroughs are obviously the result of dealing with problems; not just any problem, but a special class of problems -- chronic problems. Two broad classes of problems can be identified: chronic and sporadic. Control is primarily concerned with the resolution of chronic problems, which are persistent and recurring, like a chronic disease.

Sporadic problems, on the other hand, are unpredictable, capricious, and fortuitous. Even the most defensive planning will not protect people from them. Perhaps, the best a person can do is to arm himself with Murphy's laws. Murphy, you may recall, formulated two laws to serve as a talisman for those plagued by sporadic problems. The first:"If anything can go wrong, it will". The second: "If anything can't go wrong, it will". If you do not find sufficient solace in Murphy's laws, perhaps O'Toole's Law will serve you better: "Murphy is an optimist."

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Sporadic problems will not yield to control; chronic problems,on the other hand, constitute the major agenda for control, and increased effectiveness and efficiency. A few chronic problems we must resolve in education are:

Uncalculated redundancy.

We must find ways, systematically, to stop teaching students what they already know. Ironically, we have the structures and means to achieve this breakthrough tomorrow. School districts like Duval County (Florida) and Los Angeles are making considerable progress in reducing uncalculated redundancy. Considering that estimates of uncalculated redundancy in our schools run as high as 80 percent at the upper grade levels, coping with this one chronic problem can bring extraordinary yields in both effectiveness and efficiency.

The academic/vocational education dichotomy.

Our failure to deal effectively with this chronic problem hurts us grievously. It is not necessary to revisit Whitehead to know that some of the best ways to achieve academic learning are to relate it to vocational or career experience. We are paying incalcuable social and economic costs for our snobbery.

The failure to use a total management approach in education consistently.

Many educators, who employ management processes, really use truncated management where control is sporadic and unsystematic, where planning is an exercise that ignores control processes, and where evaluation fails to trigger timely remediation. Of course, the paramount problem may be a widespread unwillingness by educators to accept the idea that education can be managed in a systematic way; that indeed, utilization of sound management principles is antithetical to the welfare of children.

Summing Up

Most assuredly, we will continue to experience traumatic surprises if we fail to apply control procedures as a part of a total management process. Moreover, if we don't commit ourselves to a concept of quality as seen from the viewpoint of users, there can only be a spurious commitment to improving the delivery of educational services. And, regardless of our resolve and good intentions, if we fail to utilize control procedures consistently, in the coming years there will be a continuing degradation of our educational system, followed by a plague of chronic problems: Money shortages, further declines in public confidence, and worst of all, continuing shortfalls in achievement. Because, without control, there can never be timely correction. And without it, there can be no assurances that what we are doing in our schools is most effective and efficient.

There can be no acceptable reason why control should continue to be the missing link in educational management. By applying the processes of control, within a context of a total management concept, we can create true quality in education -- as evidenced by fitness for use as judged by the user. At the same time, we can certainly attain greater "mileage" from available resources. Equally important, we can vastly improve the conditions under which learners learn and teachers teach by confronting critical chronic problems that stand in the way of effectiveness. In brief, control can be an instrumentality for creating more humane institutions.

Before Columbus discovered America, all Spanish coins bore the inscription, "Ne Plus Ultra" (no more beyond); after Columbus' voyages to the Western world, all coins were changed to read, "Plus Ultra" (more beyond). As we enter the third century of our nation, the latter-day coins should be viewed as a prophecy and a challenge: More beyond.

Note: This is one of two papers; the other, in process at this printing, is entitled: "Educational Auditing and Quality Assurance".

Occasional Paper - Number 1
"To Whom it May Concern: Some Notes on Planning" by Russell L. Ackoff

Occasional Paper - Number 2
"The Positive View of Self"
by Donald Thomas.

Occasional Paper - Number 3
"Quality Control: The Missing Link in Educational Management"
by James E. Conner and Leon M. Lessinger

Occasional Paper - Number 4
"Educational Auditing and Quality Assurance" by James E. Conner and Leon M. Lessinger